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# **LARGE SCALABLE WORKSHOP FOR INNOVATION AND ENTREPRENEURSHIP**

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## **ABSTRACT**

This paper describes several years of experience in planning and implementing an interdisciplinary Workshop For Innovation and Entrepreneurship (WOFIE) where design students develop new solutions and business plans in collaboration with graduate students from social sciences, human sciences and other technical disciplines. The project is a strategic initiative with the aim of strengthening the university students' ability to develop new products and business models in relation to societal and environmental needs and challenges. The paper describes tools and methods to handle such projects with many pedagogical, cross-disciplinary, logistic and administrative challenges in executing such a large-scale workshop on multiple locations with students from different disciplines. Until now workshop has been carried out using a strict sequential phase orientated pedagogical approach, which analyses of the evaluations has pointed out as a problem. On that basis it has been decided that future workshops are based on an activity orientated pedagogical approach, where activities are executed, when it is relevant regarding contribution to the result for the individual group. The developing of the WOFIE methodology has been done under the following dogmas: 1) Asynchronous process between the groups, 2) A qualified progress outlined for supervisors and Location Leaders. The author of this paper has been part of a development group restructuring the approach into to an activity-based matrix combining a sequential perspective with a semi autonomous asynchronous supervision perspective with the possibility to adapt and iterate when necessary.

*Keywords: Workshop, planning, large-scale, activity-based matrix*

## **1 INTRODUCTION**

One of the strategic objectives in the goal-contract with the Danish government for Universities is the request for all students to have been offered teaching in entrepreneurship skills. At Aalborg University the solution was to offer a 2 ECTS (European Credit Transfer and Accumulation System) module as a 4 day intense workshop in Innovation and Entrepreneurship (WOFIE) to all 2<sup>nd</sup> semester Master students within all 3 faculties; Humanities, Social Sciences and Engineering and Science. A potential of over 800 students attending the same course at the same time presented some major challenges for an organisation not use to work across so many organisational units in such a large scale. The scale of the course changes the normal planning process of a course module. Beside logistic, financial and administrative challenges there are some key challenges pertaining to the planning and execution of such a large workshop seen from a teaching point of view.

### **Organisational challenges: large but unknown**

Aalborg University is located in three different cities, which in it self represents a technical, pedagogical and logistic problem when the objective is to offer this course module across all studies and locations. The main challenge in this aspect is the link between locations; both in terms of lectures and presentations and in the sense that the students experience being part of a very large setup including multiple locations.

The cross-disciplinary aspect is also reflected in the use of supervisors, where multiple departments are supplying the course with supervisors of very different background. Partly because the methods used are diverse and the students should experience supervisors with different background, so it is not

perceived as monopolised by one profession. And partly because of the need to establish ownership of the course module amongst different departments and studies, so they would encourage their students to attend the course.

Due to the fact that this module is offered across so many studies and faculties, it has to be adaptable in terms of how the course is offered; mandatory or extra curricular activity. This means that the exact number of students attending the course is unknown before it actually starts.

These challenges means that the number of supervisors needed fluctuates, their background and experience with the subject vary and their effort and teaching need to be coordinated across different locations.

### **Pedagogical challenges: diversity and cross-disciplinary groups**

Many different professions represented and multiple levels of skills in analysis, synthesis and representation techniques, and their previous experiences with the subject vary depending on their background. The students are mixed in groups and all are used to the Problem Based Learning (PBL [1]) approach characteristic for Aalborg University, so they have a common platform in terms of approach. But the cross-disciplinary mix in the groups does represent a challenge in terms of method, theories and tools used in the workshop.

## **2 SCALABLE SYNCHRONOUS WORKSHOP SETUP**

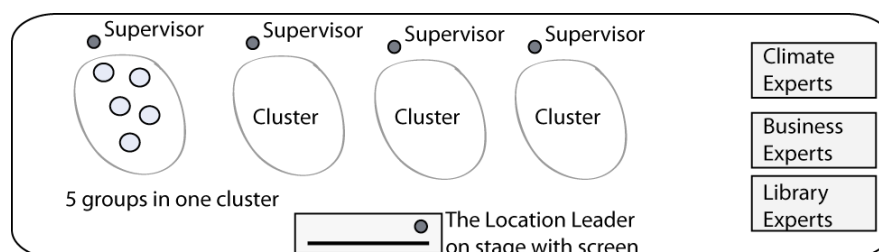
In 2009 the solution to the challenges of linking the locations has been a synchronous setup, where locations were linked with high quality video connection and live camera crew providing live feed of any lectures at any location to the remaining locations.

Around 350 students participated on all three locations, all working within the same theme, Climate, and following the tradition of PBL, they started the work on the workshop by identifying the problem and challenges they wanted to work with within 5 sub-themes; wind, water, food, energy and transportation. The assignment objective was to develop a business concept for a product or service.

Guidance of the participating students was been synchronised using a number of tools and supervision roles: Location Leaders, Process supervisors, Expert panels, Lectures, Slides shows and a detailed script describing the process step by step with precise timing and tools used.

### **Roles; Location Leader, supervisor and expert**

A Location Leader was responsible for instructions for the entire location, comprising of up to 30 groups of students, with 5 students in each group (Figure 1). The location leader set the agenda for the day and provided detailed instructions for each new step and method used using the One-task One-deadline principle to focus activities, furthermore the Location Leader was responsible for mental breaks during the day instructing the entire location in small role plays and other short games. The role of the supervisors was to follow up and re-instruct or concretise the instruction for project the group was working on. To provide detailed feedback and insight 2 types of experts were available; Subject experts (Climate related) and Business experts (both researchers and people from industry).



*Figure 1. Example from a location; Location leaders and supervisors in 2009 version*

Besides the Location Leader giving instructions, inspirational lectures were provided at 13:00 hours each day. The lecture was transmitted to all locations, thus being independent of where the speaker was located.

## Tools for instruction and supervision: Script and Slideshow

In order to assure the progress and synchronisation between locations and subsequent also between groups, two tools were used. The main instructions were given using the same slideshow on all locations, simulating all students attending the same course, at the same time at the same place.

In order to keep all supervisors and Location Leaders in sync, a detailed script was devised laying out the process step by step (Figure 2). In the script roles, methods and tools were linked to a *very* specific time in the process. Specifying the instruction and the expected outcome of this particular activity.

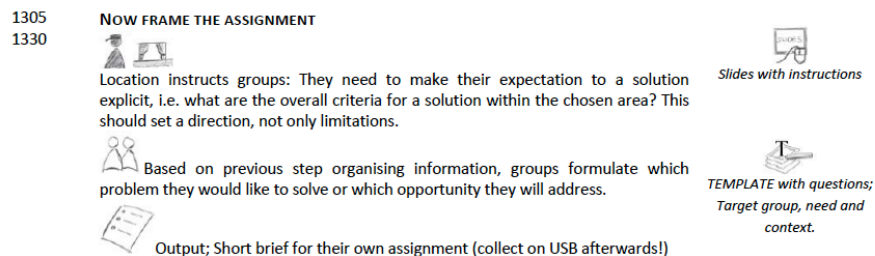


Figure 2. Script excerpt.

All supervisors had a one-day seminar before the workshop to learn about the process through a dry run of the script.

## Drawbacks and new challenges

The workshop was evaluated through web-based Survey-Exact questionnaire for all students, location leaders and supervisors. As evaluation of the course module pointed out there were a couple of major drawbacks with this approach. When all method instruction was given through PowerPoint slides immediately before the students were expected to carry out the task, the level of instruction was aiming at the lowest common denominator, or at least a very practical format. Thus not offering a very advanced instruction and level of tool and use thereof.

The requirement for synchronisation derives a couple of major obstacles:

First of all the plenum instruction abruptly interrupts all groups and the predetermined next step may be completely out of sync with the actual need of the individual group and their development process. It leaves very little room for manoeuvring and possibility to amend these consequences for the individual supervisor, since he/she has to stay on track with the script in order to meet deadline and room for the transmitted lectures.

Second the One-task, One-deadline approach with plenum instruction does not offer the students much insight into the actual development process, since it is and attempts to predetermine an otherwise open-ended and iterative process [2].

So can the setup and approach to supervision be changed to accommodate more individual adaptation without losing progression through an intense workshop and at the same time offer students more insight and ownership of the process? And can design approach and methods be used as inspiration?

## 3 NEW SETUP: ASYNCHRONOUS AND SEMI AUTONOMOUS PROCESS

For the WOFIE 2011 in April a new approach based on the experiences and evaluations from the previous workshops, has lead to a revision of the setup and script using two dogmas; 1) Asynchronous process between the groups and 2) A qualified progress outlined for supervisors and location leaders while maintaining the scalability of number of students and locations. This has lead to a shift from detailed chronological script to a Guide Map, thus moving the responsibility of progression in the development process to the supervisors instead of Location Leader. The Guide Map is based on the expected focus in activities on a given day in the workshop.

## Guide Map and milestones

The Guide Map replacement offers the supervisor an overview of what could be done during the day along with over all timetables for lunch and inspirational lecture. For each day expected, but not mandatory, milestones are laid out to help to supervisor focus the effort. The Guide Map offers a 2-page spread of suggested activities for each day and their main objective under a heading, eg.

Businessfy (Figure 3), but the supervisor is free to choose activities for the groups of which he is responsible.

## Day 3 BUSINESSFY

<b>Program</b> 09.00 [T] Progress and Activities 09.30 Interdisciplinary project work 12.00 Lunch 13.00 [T] Understanding costumers and market? 13.30 Interdisciplinary project work 16.00 End of day	<b>Milestones</b> <ul style="list-style-type: none"> <li>• Clear, short business summary</li> <li>• Understand the strengths and weaknesses of the concept</li> <li>• Have a plan for how realise the business concept</li> </ul>
<hr/> <b>BUSINESS CONCEPT</b> <hr/> <b>20. EXECUTIVE SUMMARY – reduce complexity of business concept</b> An executive summary is used to communicate a business idea effectively to decision makers. Revise, summarise and possibly visualise the main elements in the business concept - keep focus on what is unique and valuable: Vision Mission Business model	
<hr/> <b>CRITICAL REVIEW</b> <hr/> <b>21. SWOT – systematic investigation of business model</b> Perform a SWOT analysis to understand the business model. Define: Strengths, Weaknesses, Opportunities and Threats to the model.	

Figure 3. New Guide Map, excerpt of 2 page spread for each day.

The intention is for the supervisor to target the supervision to the actual need of each group, taking into account their former actions, current state and special circumstances pertaining to their specific project. It also allows for both iteration and leaps into the “future”, if the supervisor finds it appropriate for to ensure progression for a project. Thus bringing the process closer to known territory for designers use to navigating open processes by suggesting their way forward [3] with iterations and short ventures into future states.

The shift of responsibility from Location Leader to supervisors concerning the progression of the process makes the Location Leader obsolete and only leaves the need for a single person introducing each day, this can be done from one single location and live-transmitted to the remaining locations.

### Activity matrix

The Guide Map is based on a restructuring of previous years main activities into 4 categories derived from the main focuses each day in the 4 day workshop with the working titles of; Uniqify (Day 1), Verify (Day 2), Businessfy (Day 3) and Convincify (Day 4). This denotes the overall progression from innovation to entrepreneurship during the workshop, but at the same time it also describes the range of activities in each day, where methods and tools are used for 4 main purposes: defining what new (Uniqify), validating information (Verify), looking at how this can be commercial (Businessfy) and how to communicate it clearly (Convincify).

Activities	Progression			
	Uniqify	Verify	Businessfy	Convincify
Uniqify	IDEATION	VALUE	BUSINESS CONCEPT	DESIRE
Verify	NEED	RESEARCH	CRITICAL REVIEW	POTENTIAL
Businessfy	BUSINESS IDEA	MARKET	ORGANISATION	STRATEGY
Convincify	PAIN	CURE	PROFIT	PROPOSAL

Figure 4. Activity matrix simplified without specific methods.

Thus it creates a 4 by 4 matrix (Figure 4), with the emphasis on the correlation between phase, representing the progression in the process, and activity as the focus of actions each day. This means

that day one where Uniquify phase meets Uniquify activities, the emphasis is on creating something new (innovation), while day two Verify phase meets Verify activities putting emphasis on verifying the derived idea really is unique and valuable. Moving to the Businessfy phase meeting Businessfy activities on day 3 where the emphasis is organising and strengthening the business aspect and finally on day 4 the Convincify phase meets the Convincify activity emphasising the focus on communication to a target audience.

However these are the emphasis, but for each day activities concerning all aspects related to the specific phase are suggested to ensure preparations for later activities within the aspects and that all 4 aspects are considered in the development although the emphasis may shift over time.

Precisely because the nature of a development process is so unpredictable this matrix is suggestions for activities, not dictations. And it allows for navigating between the 4 aspects each day as the supervisor sees fit, while also allowing for iteration going back to activities from previous days if a group comes to a dead end and have to revise.

### **Semi autonomy and process involvement**

The Guide Map is supplemented with accessible literature for the students on innovation, entrepreneurship and business focusing on the outcome will be presented to potential investors [4] and supporting the basic setup of WOFIE that entrepreneurship is innovation [5].

The Guide Map is on-line available as a multi layer map where students can go into an activity (e.g. Ideation) browse the methods suggested along with their main purpose and outcome, choosing a method will show an easy step by step guide with examples for all steps for all methods. Each method has a unique ID number, so the supervisor could instruct the group using a certain method while also providing them with the opportunity to revisit the steps themselves after the supervisor leaves the group. The aim is bi-fold; first of all it could lead to more efficient use of supervisor resources, second providing the students with full access to all methods will allow groups to partly take ownership of their process and influence their development process. It also allows for students with previous experience with some of the methods and techniques to drive his or hers group forward, thus involving their own expertise in the process decisions.

Even though the Guide Map allows for asynchronous supervision of groups and iterations leaps forward, etc. it also has an intrinsic chronology for those supervisors not interested or experienced enough in certain parts of the process.

## **4 EXPECTED CHALLENGES IN AN ASYNCHRONOUS APPROACH**

So can the setup and approach to supervision changes outlined in this paper accommodate more individual adaptation without losing progression through an intense workshop and at the same time offer students more insight and ownership of the process? And what are the immediate challenges?

So far the restructuring of the approach from synchronous to asynchronous is in the planning phase waiting implementation April 2011. But the restructuring by the two dogmas is expected to accommodate asynchronous supervision to a certain extent; it is not necessarily expected that the supervisors will jump ahead in time (phases) and introduce activities to students from day 3 on day 1. But it is expected that supervisors will advise groups to iterate when they face dead-ends in the process, and the Guide Map should provide a fast overview to suggest appropriate activities. It is also expected that supervisors will take the progression of the individual groups into consideration when instructing and suggesting activities.

As to the insight and ownership it will depend on the supervisors pedagogical approach in instructing the groups and involving them in the process decision-making. It could perhaps be expected that over time during the workshop, the groups will become more familiar with the setup and seek their own way through the process using the online method catalogue as a resource.

### **Expected re-occurring challenges**

The new setup does not necessarily meet some of the well-known challenges from the previous setup concerning the cross-disciplinary mix of groups and their un-even levels of skills and experience. The scalability of the setup is unchanged, but does not change the circumstantial challenges of fluctuation in number of students and number of supervisors needed.

If information concerning the development process and principles of progression is not available to students as part of the curriculum the ownership of the process and development may not change, leaving the control of the process in the hand of the supervisor.

### **Key organisational and pedagogical challenge: supervision**

With the restructuring and decentralisation of process control, the setup is more exposed in terms of qualified guidance. The shift from Location Leader to supervisor emphasises the need for qualified supervisors and preparation hereof.

The supervisors various background and experience level may suggest that re-using supervisors from previous years may counter some of the uncertainties, but the level of responsibility and requirement of insight into all parts of the process is higher. This is due to the requirement of not only exemplifying and making instructions concrete and relevant, but also having insight into the development process and possible actions to take from any point in the process.

The matrix background of the Guide Map, may also suggest the use of two types of supervisors; one process supervisor advising the groups on process and directions, and an expert type of supervisor knowledgeable in the theme of the day (Uniqueness, Verification, Business or Communication).

Without properly prepared and skilled supervisors there is a risk that the entire setup of asynchronous approach may be circumvented by a supervisor not able or willing to distinguish between progression of the 5 groups his/her the cluster. Thus just pushing the chronology syndrome down stream from the entire Location to the cluster of a supervisor.

## **5 CONCLUSION**

So can the setup and approach to supervision be changed to accommodate more individual adaptation without losing progression through an intense workshop and at the same time offer students more insight and ownership of the process? And can design approach and methods be used as inspiration?

The intrinsic iterative approach from the design process was the main inspiration to break the synchronous approach from 2009 and focus on the type of activities used in the process, rather than just the process.

The 4\*4 matrix used to design the Guide Map seems to be able to accommodate two main types of supervision, the more passive supervisor looking for chronology and the more active supervisor engaging in the processes of all groups in the cluster. The intrinsic chronology in the phases (days) ensures the progression, while the Guide Map allows for iteration and leap forward to other activities. Making Guide Map, methods, examples, literature, etc. accessible online for the students at least offers insight and self-control for students. But at the same time none of the tools deals with “how” to instruct and engage the methods, thus the setup does not deal with very essential facilitation issue that could be very critical by having students and groups not engaging properly in the process.

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